

Application No. 09/744,637  
Filed: March 21, 2001  
TC Art Unit: 1774  
Confirmation No.: 3042

REMARKS

In response to an Office Action mailed on January 16, 2004, Applicant respectfully requests that the above-listed Amendments be entered and the Application be reconsidered. With entry of the above-listed Amendments, Claims 1 and 8 are amended and Claim 7 is canceled. Thus, Claims 1-6, 8-12 and 19 are presented for examination. Of these, Claim 1 is independent, and the remaining claims are dependent.

The Examiner rejected Claims 1-9, 12 and 19 under 35 U.S.C. 103(a) as being obvious over European Patent No. EP 0 649 753 A1 to Kuwabara ("Kuwabara"). In addition, the Examiner rejected Claims 1-4, 7, 9-12 and 19 under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 5,672,413 to Taylor, et al. ("Taylor").

The Applicant appreciates the time and courtesy extended by the Examiner to George Jakobsche of this office during a telephonic examiner interview on June 17, 2004. Kuwabara and Taylor were discussed in relation to the claims and, in particular, in relation to how positive recitation of "filler" could distinguish the claims from the cited art.

In the Office Action, the Examiner cited Kuwabara's published European patent application (EP 0 649 753 A1). That application has since issued as EP 0 649 753 B1. Column and line citations to the issued patent are, in some cases, different than corresponding citation to the application. For consistency with the Office Action, the Applicant's citations to Kuwabara are to the published application.

Kuwabara discloses a multi-layered transfer medium 707, best showing in Fig. 2, that includes a base material 601, a bonding

Application No. 09/744,637  
Filed: March 21, 2001  
TC Art Unit: 1774  
Confirmation No.: 3042

layer 602, a separation layer 603 and a surfaced layer 604. Ink is imparted on the surface layer 604. Once the transfer medium 707 is printed with an image, the image can be transferred to another material by placing the transfer medium on the other material and applying heat. The heat causes the bonding layer 602 to melt. The separation layer 603, the surface layer 604 and the ink separate from the base material 601 and the bonding layer 602, and the ink and the surface and separation layers are transferred to the other material. The heat also causes the separation layer 603 to become adhesive and, therefore, bond to the other material. Column 14, lines 9-19.

Taylor discloses a multi-layered element 10, shown in Fig. 1, for use in an image transfer system. Taylor's element 10 includes a temporary carrier 12, a protective layer 14 and an adhesive layer 16. After printing an image with hot-melt ink 18 on the adhesive layer 16, the adhesive layer, the hot-melt ink and the protective layer 14 can be laminated to a substrate 20 (Fig. 2), and the temporary carrier 12 can be peeled off. Column 3, lines 1-15. This process is shown in Fig. 3. The element 10 is fed from the left, and the layer 18 of hot-melt ink is applied to the bottom surface of the adhesive layer 16. A permanent substrate 20 is then applied to the ink layer 18, and the resulting sandwich is heated and squeezed between heated rollers 30 and 32. After passing between the rollers 30 and 32, the temporary carrier 12 is removed. Column 5, lines 9-25.

The present invention is directed to a transfer paper having a release or barrier layer applied to at least one surface thereof. The release or barrier layer includes a filler and has a porosity of at most 100 ml/minute. When ink is applied to the

Application No. 09/744,637  
Filed: March 21, 2001  
TC Art Unit: 1774  
Confirmation No.: 3042

transfer paper, the low porosity of the layer permits water or other solvent in the ink to be absorbed, while the ink particles substantially remain on top of the layer. Thus, more of the ink can be transferred to another material or surface than in the prior art.

In rejecting Claims 1-9, 12 and 19, the Examiner cited Kuwabara (column 4, line 10) as disclosing a liquid reactive resin layer that "exhibits permeability." Claim 1 recites a maximum porosity ("a porosity of at most 100 ml/min.") of the release or barrier layer. As noted above, the low porosity of the layer increases the amount of ink that can be transferred to another material or surface. The present Application discloses that such a low porosity can be obtained by, for example, applying a release or barrier layer made of a suitable material and having a sufficient thickness or density.

The porosity is not, however, merely a recitation of a "newly discovered function or property," as characterized by the Examiner. The recitation of "a porosity of at most 100 ml/min" is a positive limitation, i.e. a specific measurable characteristic, of the release or barrier layer. Nowhere does Kuwabara discuss the desirability of having a low porosity layer, specific porosity values, an upper limit on porosity, nor how to form a layer having low porosity. Thus, it is not believed that Kuwabara teaches all the claimed "positional limitations," and withdrawal of the rejection is earnestly requested.

The Examiner rejected Claims 7 and 8, because the recitation of a "layer containing up to 15% of a filler" reads on Kuwabara's transfer medium, when the amount of filler is 0%. The Applicant canceled Claim 7 and amended Claim 1 to positively recite a filler

Application No. 09/744,637  
Filed: March 21, 2001  
TC Art Unit: 1774  
Confirmation No.: 3042

in the release or barrier layer. It is believed that amended Claim 1 does not read on a transfer medium having no filler. As noted above, it is not believed that Kuwabara discloses a release or barrier layer, as recited in Claim 1, even absent the recitation of a filler. Thus, it is not believed that Kuwabara discloses a release or barrier layer that includes a filler.

In rejecting Claims 1-4, 7, 9-12 and 19, the Examiner cited Taylor as disclosing an adhesive layer 16 that is allegedly equivalent to the claimed release or barrier layer. However, as can be seen in Fig. 3, after hot-melt ink is applied to Taylor's adhesive layer 16, the protective layer 14 is detached from the temporary carrier 12. Then, the protective layer 14, the adhesive layer 16 and the ink 18 are transferred to the substrate 20. Taylor's protective layer 14 is specifically designed to release from the temporary carrier 12, so the entire adhesive layer can transfer to the substrate 20. See column 3, lines 9-15 and column 3, lines 38-39. Furthermore, when the ink layer 18 is transferred to the substrate 20, none of the adhesive layer 16 can remain attached to the temporary carrier 12, because the protective layer 14 transfers to the substrate 20 and the protective layer is between the adhesive layer 16 and the temporary carrier 12. See Fig. 3.

In contrast, the release or barrier layer of the present invention is not designed to be transferred along with the ink. The present invention does not require a special layer between the base paper and the release or barrier layer to promote separation of the release or barrier layer, as taught by Taylor. Furthermore, according to Taylor, if paper is used as the temporary carrier 12, the paper's surface must be treated to have proper release

Application No. 09/744,637  
Filed: March 21, 2001  
TC Art Unit: 1774  
Confirmation No.: 3042

characteristics. Column 3, lines 18-20. No such special treatment is required for the present invention. Thus, it is believed that Taylor's adhesive layer is not equivalent to the claimed release or barrier layer.

In rejecting Claims 1-4, 7, 9-12 and 19, the Examiner also cited Taylor (column 4, lines 5-9) as disclosing an adhesive layer 16 that includes 0-10% spacer particles, such as silica. Although silica can be used for the filler in the release or barrier layer recited in Claim 1, as noted above, Taylor's adhesive layer 16 is not equivalent to the claimed release or barrier layer. Taylor's layer 16 is an adhesive, whereas the recited release or barrier layer is not an adhesive. Furthermore, Taylor uses spacer particles to build up the thickness of the adhesive layer 16, whereas the recited filler is used to improve the transfer characteristics of the transfer paper. Thus, Taylor's disclosure of silica particles in his adhesive layer does not suggest, teach or anticipate the recited filler in a release or barrier layer. Withdrawal of the rejection over Taylor is earnestly requested.

No art of record, either alone or in combination, is believed to disclose, teach or suggest a transfer paper that includes a base paper and a "release or barrier layer at least on one side of said base paper ... wherein said release or barrier layer has a porosity of at most 100 ml/min. and contains filler, said filler being present in an amount up to 15 wt. %," as recited in amended Claim 1. For at least this reason, Claim 1 is believed to be allowable. The remaining claims depend directly or indirectly from Claim 1 and are, therefore, believed to be allowable, for at least the reasons discussed above with respect to Claim 1.

Application No. 09/744,637  
Filed: March 21, 2001  
TC Art Unit: 1774  
Confirmation No.: 3042

For all the foregoing reasons, it is respectfully submitted that the present Application is in a condition for allowance, and such action is earnestly solicited. The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present Application.

Respectfully submitted,

ANTHONIE CORNELIS DE VISSER ET AL.

By: 

Charles L. Gagnebin III  
Registration No. 25,467  
Attorney for Applicant(s)

WEINGARTEN, SCHURGIN,  
GAGNEBIN & LEOVICI LLP  
Ten Post Office Square  
Boston, MA 02109  
Telephone: (617) 542-2290  
Telecopier: (617) 451-0313

CLG/ad  
303033